

### **REMARKS/ARGUMENTS**

By this Amendment, claim 17 is amended. Claims 17, 27-28 and 31-35 are pending.

Favorable reconsideration is respectfully requested in view of the foregoing amendments and the following remarks.

#### **Claim Amendments**

Claim 17 is amended to specify that the reaction substrate comprises a flexible compartment layer of polydimethyl siloxane, wherein the sample reservoirs are arranged in straight rows and columns in a 48 x 32 matrix format, have a mid-point distance of 2.25 mm, and a diameter of 1.5 mm. Support for the foregoing amendments is found in the original disclosure at page 14, last paragraph, and page 16, second paragraph.

#### **Obviousness Rejections**

Claims 17 and 31-35 stand rejected under 35 U.S.C. § 103(a) as allegedly being obvious over U.S. Patent No. 4,299,920 to Peters in view of U.S. Patent No. 4,441,793 to Elkins and further in view of U.S. Patent No. 6,645,434 to Muramatsu et al. Claims 27-28 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Peters, Elkins and Muramatsu et al. in view of U.S. Patent No. 6,037,168 to Brown. These rejections are respectfully traversed.

Applicants previously pointed out that the proposed combination of reference teachings does not disclose or suggest the claimed reaction substrate comprising a flexible compartment layer of silicon rubber with a thickness from 0.5 mm to 4 mm perforated by an arrangement of holes, wherein the flexible compartment layer adheres to the surface of a glass plate substrate without adhesive such that the holes provide sample reservoirs with a sample volume from 1 nl to 10  $\mu$ l, and variations of positions of the sample reservoirs in a direction perpendicular to a base plane are less than 250  $\mu$ m over an entire surface of the base.

The Examiner replied in the Office Action that these differences are merely the obvious result of optimization through the adjustment of result effective variables.

A presumption that the invention is obvious on this basis "can be rebutted if it can be shown that the prior art teaches away from the claimed [invention], or the claimed [invention] produces new and unexpected results." *Ormco Corp. v. Align Technology Inc.*, 79 USPQ2D 1931, 1940 (Fed. Cir. 2006). See also *In re Geisler*, 116 F.3d 1465, 1469, 43 USPQ2d 1362, 1365 (Fed. Cir. 1997) ("A prima facie case of obviousness can be rebutted if the applicant ... can

show 'that the art in any material respect taught away' from the claimed invention." quoting *In re Malagri*, 499 F.2d 1297, 1303, 182 USPQ 549, 533 (CCPA 1974)).

Assuming for the sake of argument that the Examiner has made a prima facie showing of obviousness, Applicants have rebutted the showing with the Rule 132 Declaration of Dr. Brakmann. The Declaration constitutes evidence (not mere opinion) that a person having ordinary skill in the art at the time of the invention (a PHOSITA) would not have been motivated to consult, combine and modify the teachings of the cited references, which do not relate to HTS techniques and apparatus, with a reasonable expectation of successfully producing the claimed reaction substrate, which has claimed properties that make it suitable for use in HTS. This conclusion is further enhanced by the present amendments which focus the claims on HTS technology to an even greater extent.

At paragraph 9 of her Declaration, Dr. Brakmann cites several prior patents in support of her conclusion that a PHOSITA would have lacked reasonable motivation to optimize the prior art as alleged by the Examiner. This evidence shows that the prior art clearly taught away from providing a reaction substrate using a glass slide (or plate) having a thickness of about 150 nm with an adhering flexible compartment layer. The Examiner has simply not shown why a PHOSITA would disregard the clear teachings in the art that such glass plates are extremely fragile. Specifying parameters which fall into ranges where disadvantages have been expected before the invention, cannot be called an obvious optimization.

Furthermore, paragraph 11 of the Declaration describes unexpectedly good results achieved by the claimed invention:

Given the anticipated fragility and flexibility of a glass plate having a thickness of about 150 nm, a PHOSITA would have not have expected a reaction substrate comprising such a glass plate as a base to exhibit sufficient stability such that variations of positions of the sample reservoirs in a direction perpendicular to a base plane are less than 250  $\mu\text{m}$  over an entire surface of the base. This unexpected property of the claimed reaction substrates make them very well suited to use in HTS procedures in biotechnical and/or chemical research and development, as among other advantages, time intensive readjusting, e.g. of microscope lenses, is not required in the z direction, perpendicular to the base.

Contrary to the statement in the Office Action at pages 4-5, the record does not lack factual evidence. The Declaration cited several prior art patents as evidence of what a person skilled in the art would have known at the time of the present invention. Moreover, Dr.

Brakmann's opinion regarding the knowledge in the art is evidence probative of the nonobviousness of the invention. See, e.g., MPEP 2145 ("Rebuttal evidence may include .... [e]xpert opinions regarding the level of skill in the art.").

The Examiner summarily dismisses the declaratory evidence without providing any logic or contrary evidence suggesting that a PHOSITA would have been motivated to make the proposed combination of reference teachings despite what the Declaration shows.

Accordingly, reconsideration and withdrawal of the obviousness rejections are respectfully requested.

For at least the reasons set forth above, it is respectfully submitted that the above-identified application is in condition for allowance. Favorable reconsideration and prompt allowance of the claims are respectfully requested.

Should the Examiner believe that anything further is desirable in order to place the application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,

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